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Table 1. Comparison of *f* and *w* with other Polynesian consonants.*

	Pukapuka	New Zealand	Samoa	Niue	Tonga	Uvea	Ontong Java	Hawaii	Marquesas	Rarotonga	Tahiti	Mangareva	Easter Island
	f	h	s,-	h	h	h	h, s	h	h, f	'	h	'	h
To walk	yaele	haere	(saele)	haele	haele	haele	haele	haele	hee	'aere	haere	'ere	ahere
To err	yala	hara	sala	hala	hala	hala		hala	haa	'ara	hara	'ara	hara
To do	yanga	hanga	anga	(hanga)	(hangahanga)	hangahanga		hana	hana	'anga'anga	ha'a	'anga	hanga
Pregnant	yapu	hapu					sopo		hopu		hapu		
To tie	yele	here		hele	hele			hele	fee	'ere	here	'ere	here
To mix	yeuyeu	heuheu			heuheu				feu	'eu	heu		(heu)
Tail	yiku	hiku	si'u; i'u	hiku	hiku	hiku		hi'u		'iku		'iku	iku
Gray	yina	hina	sina	(hina)	hina			hina	hina	'ina	hina	'ina	
Friend	yoa	hoa	soa	(hoa)	hoa	hoa		hoa	hoa	'oa	hoa	'oa	hoa
Spittle	yuvale	huware									huare		
	w	wh, h	f, s	f	f	f	h	h	f, h	'	f, h	'	h
Four	wa	wha	fa	fa	fa	fa		ha	fa, ha	'a		'a	ha
To make	wai	whai	fai	fai	fai	fai			fai, hai		fai		hai
Caus. prefix	waka	whaka	fa'a	faka	faka	faka		ha'a	haa, haka	'aka	haka, faka	'aka	haka
House	wale	whare	fale	fale	fale	fale	hale	hale	hae, fae	'are	fare	'are	hare
To go	wano	whano	fano	fano	fano	fano	hango				fano		
Land	wenua	whenua	fanua		fonua	fenua	(hengua)		fenua, henua	'enua	fenua	'enua	henua
To want	wia	hia	fia	fia	fie	fia		hia	fia, hia	'ia	hia		
Paddle	woe	hoe	foe		fohe	foe	hoe	hoe	hoe	'oe	hoe	'oe	hoe
New	wou	hou	fou	fou	fou	fou		hou	hou	'ou	hou	'ou	hou
To swallow	wolo	horo	folo	folo	folo	folo			hoo		horo	'oro	horo
Seed	wua	hua	fua	fua	fua	fua	hua	hua	hua	'ua	hua	('ua)	hua
To open	wuke	huke	su'e	fuke	fuke	fuke				'uke			

* This table reflects all the limitations of the phonetic and dictionary material available for present study.

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The main body of Pukapukan sounds presents no special features of comparative interest. But the two consonants θ and *w* are peculiar members of the otherwise usual Polynesian consonantal system. The Pukapukan *w* is not to be confused with the sound which is recorded as *w* in some dialects and which is probably more correctly described as the intermediate β, a sound found in primitive Hawaiian and in Rarotongan. Table 1 indicates the role of θ and *w* in widely distributed Polynesian words. On the information of Te Rangi Hiroa (Dr. Peter H. Buck), the *h* mistakenly recorded by Tregear (30) for Mangarevan is here discarded. It is regrettable that the presence or absence of the glottal stop as a consonant has in too many Polynesian dialects become a matter of considerable mystery.

In New Zealand, both *h* and *wh* are used before the vowels *a*, *i*, *e*, but *h* is required (in most words) before the vowels *o* and *u*. In no other dialect, except Tahitian, is this distinction evident. Maori *wh* equates with the simple Pukapukan *w*, Maori *h* with the Pukapukan θ or *w*. Maori *ha* and *he* tend to change to Pukapukan θ*a* and θ*e*; Maori *hi* sometimes becomes Pukapukan θ*i*, more often Pukapukan *wi*. A more consistent rule of consonantal change is evident in comparing Pukapukan and Samoan, where Pukapukan θ becomes Samoan *s* and Pukapukan *w* becomes Samoan *f*. In Niue, Tonga, and Uvea, Pukapukan θ changes to *h*, Pukapukan *w* to *f*. In Hawaii, Rarotonga, Tahiti, Mangareva, Easter Island, and probably also Ontong Java, one consonant only (*h* or ') occurs in the several words where western Polynesian dialects distinguish between *s* and *f*, or between θ and *w*.

The most striking similarity to the Pukapukan sound θ occurs not in Polynesia proper, but in Fiji. Hazelwood (17, p. 1) describes for Fiji the consonant he writes *c* as "*tha*, as in that or this; not as in thick." It appears, therefore, that this sound is the voiced interdental spirant, ð. In some words in which this Fijian consonant occurs it corresponds to the Pukapukan θ[1]: *yala* (to err), *cala*; *yau* (breeze), *caucau*; *yiyi* (to split), *cici*; *yila* (to shine), *cila*; *yoka* (to spear), *coka*; *oyo* (provisions), *oco*; *yula* (to fasten), *cula*; *yuki* (to pierce), *cuki*.

In other words, the Fijian ð is used before or between vowels where corresponding words in Pukapukan require no consonant: *akau* (reef), *cakau*; *angi* (to blow), *cangi*; *an..* (outrigger), *cama*; *iva* (nine), *ciwa*; *moe* (to sleep), *moce*; *woe* (to paddle), *voce*.

Pukapukan informants were not consistent in their use of the θ at the beginning of certain words. Alternately, for example, they said *iliili* (to ask) and *yiliyili*. This, together with the fact that few Pukapukan words collected commence with a vowel, gives me the strong impression that formerly a θ preceded all vowels now commencing words. If this is true, then

[1] In the following comparisons the Pukapukan term is given first, followed by the translation in parentheses, and the Fijian term.

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the group of words in which Fijian ð appears between vowels is not properly distinguishable from the words where Fijian ð corresponds to Pukapukan θ.

In another category, however, Pukapukan θ is replaced by the Fijian *s*, said to be pronounced "as in English": *yanga* (to do), *sanga*; *yelu* (to comb), *seru*; *yeye* (foolish), *sese*; *yeu* (to mix), *seu*; *yika* (netting needle), *sika*; *yinu* (oil), *sinusinu*; *yua* (water), *suasua* (wet).

Like the ð sound, Fijian *s* occurs in some words where no Pukapukan consonant is now used: *ala* (path), *sala*; *angaanga*[2], *sangasanga*; *olo* (to rub), *solo*.

I find no suggestion in the literature that the Fijian ð is ever palatalized, though this is invariable with the Pukapukan θ. But the semivowel *y* is another Fijian consonant used in some words where Pukapukan requires no consonant: *ate* (liver), *yate*; *atu* (row), *yatu*.

In a few Fijian words *y* corresponds to Pukapukan θ: *yala* (to encircle), *yala*; *yau* (to come), *yau* (to come or go); *yau* (dew), *yauyau* (fog or mist).

The sound θ appears in the Melanesian sound system as worked out by Ray (23,p.30). It is noted in particular for Nengone and Lifu of the Loyalty Islands and for Aneityum in the southern New Hebrides (23,pp.77,139). Because of inadequate linguistic material it is impossible to determine the relation between this Melanesian sound and the voiceless spirant of Pukapuka.

Pukapukan *w* is Fijian *v*. Other consonants seem to correspond in words common to both as follows (Pukapukan given first): k, k; k, ngg (q)?; l, l; l, ndr; m, m; n, n; ng, ng; p, mb; t, t; t, nd; v, w.

It is regrettable that paucity of phonetic material for any Fijian dialect renders it impossible to draw conclusions, but when trustworthy phonetic and ethnographic material becomes available for the cultures crudely lumped together today as Fijian, it is not unlikely that phonetic and cultural anomalies found in the otherwise prevailing Polynesian culture of Pukapuka will prove no longer to be unique but part of a western sub-culture that may be traced from its eastern boundary in Pukapuka across to, and beyond, Fiji.

POPULATION

The population for the years for which figures are available (7) is as follows: 1906, 435; 1911, 490; 1916, 474; 1926, 526; 1935, 632.

The increase in population from 1906 to 1911, followed by a decrease in 1916, is at least partly explained by the fact that 52 Pukapukans were transferred to Rarotonga in September 1914, in order to relieve distress caused by the tidal wave that swept Pukapuka in January of that year. The population today shows a great increase over the population figures of 1916 and 1926. Records for 1933 and 1934 show a total of 41 births as compared

[2] Pukapukan informants held that the reduplicated form of the word *yanga* is not *yangayanga*, but *anganga*.

1:Beaglehole and Beaglehole E-5 (1934-5) 1938 Pukapukans

171 Pukapuka and Samoa. The double-pointed throwing weapon links Pukapuka to Funafuti; oval or round religious structures seem to have their nearest parallel with those of Niutao in the Ellice Islands. Unlike Samoa, Pukapuka lacks tattooing, the arched house, the use of house decorative lashings and the plank-flanged canoe, though the use of flanges on the dugout canoe may suggest Samoan influence.

In social organization, Pukapuka presents several features that seem more Melanesian than Polynesian. This is notable in the structure of the maternal moieties, and the importance of named maternal descent groups. The common western Polynesian custom of *vasu* or *fahu* is absent in Pukapuka. Though the Pukapukan kinship system is marginal to the west, there has been a specialization in the function of at least one western kinship category (the *moyakitanga*, sacred maid), and whereas brother-sister tapu is absent, the full weight of avoidance has fallen on those of opposite sex who are related as cross or parallel cousins. This strongly suggests a similar emphasis reported for the southeast and northwest Solomon Islands (Mala and Buka). Again, the elaboration of rank within kindred associated with the west, and the elaboration of rank within the social structure associated with Samoa and Tonga, together with a chiefly language, are all lacking in the simpler, more democratic structure of Pukapukan society.

The hierarchy of Pukapukan gods is hard to trace elsewhere. The named gods and their elaboration of function seem peculiar to Pukapuka. The absence of such gods as Tangaloa, Tane, Ru, and Rongo points to a break with the deistic systems of the rest of Polynesia. Certain correspondence between the Pukapukan conception of the Underworld and that formerly prevalent in Futuna may be noted, but it is significant that a common western name for the underworld, *pulotu* or its dialectical equivalent, is unknown in Pukapuka other than as a recently introduced word.

191 Linguistically, the dialect of Pukapuka and its phonetic material seem to be unique in that it is impossible to say whether Pukapukan is more closely allied to the western or to eastern dialects. One of the two phonetic anomalies that are not found elsewhere in Polynesia appears to have its closest affinity with sounds recorded for Fiji and the New Hebrides.

171 The games of Pukapuka are widespread Polynesian games. Analysis of the string figures indicates that these show a closer affinity with the west than with the east. Because comparative string figure collections are still very inadequate, it is impossible to be more definite than this.

The myths and tales of Pukapuka mention several of the well-known Polynesian culture heroes. It is possible that the relatively large number of animal tales in Pukapuka, though few by comparison with the total number of known tales, points to a far western affiliation. At least it serves to dis-

2:Macgregor E-2 (1933) 1935 Pukapukans

194 sented in the text as *'i*. This extra sound following *h* is found in
●197 the dialect of the Tokelau Islands (9), Manihiki, and Rakahanga (13). Many natives of Pukapuka drop the glottal closure at the beginning of a word and retain only the *i* sound. To English-speaking people this sounds like *y*, as in the word year, and has led Frisbie (3), Hutchin (6), and Trotter (17) to write *y* in words that contain this sound. A comparison of words written with *y* by Trotter with cognate words of the Maori dialect (16) and the Samoan dialect (10) shows that the *y* becomes *h* or *r* in Maori and *s* or *l* in Samoan. I believe that Trotter has confused the liquid sound of the Pukapukan *l* with the *y* sound which he heard in other words. He has given *lengalenga* (green) as "yengayenga" and *lava* (multitude) as "yava". The forms *lengalenga* and *lava* are found in the Samoan dialect also. In all other words containing *y*, the *y* becomes *h* in the Maori form and *s* in the Samoan form, as shown in the following comparative list of words:

Pukapuka	Maori	Samoa	Translation
ye	———	se	not
yauariki matangi	hau	sau	gentle breeze, fresh, cool, dew
yeuyeu	heuheu	seu	to mix or scatter
yoka	hoka	so'a	to husk
yoyongi	hongi	sogi	to smell or kiss
yna	hina	sina	grey, white

The original Polynesian *h*, which Buck (13) suggests has been retained in Hawaii, and the old form *wh* of the Maori dialect (also retained in the Manihiki dialect) has been developed into a full *w* sound in Pukapuka speech. The Hawaiian word hau (*whau* in Maori) becomes *wau* in Pukapuka.

The sound of *t* also has a variant sound *ts* before the vowel *i*, as in the Tongan and several other Polynesian dialects. *K* is often given the sound of hard *g*, a characteristic often heard in Tokelau speech. The name of the Pukapuka god, Te Akuaku, was pronounced by one informant "Te Aguagu". *L* has an intermediate sound between *l* and *r*, as pronounced by many of the natives. In representing it as *l*, I may be influenced by the fact that I had previously heard only Polynesian dialects containing the true *l*. Hutchin, Frisbie, and Trotter, familiar with dialects containing *r*, evidently heard the sound of *r* and have represented it so in their writings. The sound of *v* exists in the words *vaka* (canoe) and *vai* (water) but is usually sounded as *w*.